Regarding the modified forms of construction in the same view of Fig. 1, Applicants respectfully submit that Fig. 1 is proper. Applicants' invention pertains to an improvement to flexible printed circuit boards, such as, the conventional flexible printed circuit board shown in Fig. 1. The inventive improvement pertains to the glass transition temperature of an adhesive layer being higher than an operating temperature of the flexible printed circuit board. Accordingly, the Fig. 1 example of a flexible printed circuit board is proper.

Thus, Applicants respectfully submit that the objections to the drawings have been overcome.

On page 2 of the Office Action, a substitute specification in proper idiomatic English has been required. In response, a substitute specification is enclosed, including a substitute abstract. The enclosed substitute specification is entitled "Substitute Specification." The substitute specification does not contain new matter. Also enclosed, is a marked-up version of the changes made to the Specification. The marked-up version of the Substitute Specification is captioned "Substitute Specification with Markings to Show Changes Made." Thus, Applicants respectfully submit that the objection to the Specification has been overcome.

On page 3 of the Office Action, claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph. In response, claims 1, 5, and 6 have been amended to clarify the claims. Applicants respectfully submit that the amendments to claims 1, 5, and 6 do not narrow the claims and are not made for substantial reasons related to patentability. For example, the "working environment temperature" clearly pertains to an "operating temperature" of the flexible printed circuit board as described in the Specification. Also, regarding claim 1, the "base film side adhesive layer" in line 5 has an antecedent basis in lines 1 and 2.

Thus, Applicants respectfully submit that the § 112, second paragraph, rejection of claims 1-6 has been overcome.

On page 4 of the Office Action, claims 1-6 were rejected under 35 U.S.C. §102(e) as being anticipated by Saunders, U.S. Patent No. 6,075,423. Applicants respectfully disagree.

Referring to the example of Applicants' invention disclosed in the specification, the flexible printed circuit board (FPC) is composed of a base film, a base film side adhesive layer provided on the base film, a metal foil layer on which a circuit pattern is formed, provided on the base film side adhesive layer, and a cover layer side adhesive layer provided on the metal foil layer. Also, at least one of the base film side adhesive layer and the cover layer side adhesive layer has a higher glass transition temperature than an operating temperature of the FPC.

Applicants' claimed invention provides advantages. For example, due to the glass transition temperature of at least one of the adhesive layers being greater than an operating temperature of the FPC, softening of the adhesive itself is prevented. One beneficial result is that a high flexibility is obtained. The improved FPC can have improved performance and a longer life.

Turning, to Saunders, initially, Applicants respectfully note that the §102(e) rejection does not assert that Saunders discloses at least one adhesive layer having a higher glass transition temperature than an operating temperature as claimed in claim 1. For this reason alone, the rejection should be withdrawn.

Saunders pertains to an apparatus which includes a multilayered circuit board having a signal trace, and a conductive layer comprising a limited region on the multilayer circuit board proximate to and offset from the signal trace, and coupled to control characteristic impedance. See Saunders, column 1, lines 48-54. Saunders does not disclose or suggest that, in order to

prevent softening of an adhesive and to obtain high flexibility, the glass transition temperature of an adhesive layer is greater than an operating temperature.

Thus, the §102(e) rejection should be withdrawn because Saunders does not disclose or suggest that at least one adhesive layer has a higher glass transition temperature than an operating temperature of the flexible printed circuit board as claimed in claim 1.

Furthermore, Applicants respectfully submit that Saunders does not disclose a flexible printed circuit board structure as claimed in claim 1. Rather, Saunders discloses a PCB (10), solder mask layer (26), prepreg layer (18), non-conducting core layer (12) adjacent to or layered between a conductive power layer (14) and a conductive ground plane or layer (16), and solder mask layer (28) in Fig. 1. Solder mask layers (26) and (28) are a non-conductive material, for example, dielectric material, such as a photo-imageable insulative material or a non-conducting epoxy. Prepreg layer (18) is, e.g., a dielectric material, such as a fiberglass cloth or matte having impregnated resin. Non-conducting core layer (12) is, for example, a standard FR4 fiberglass core having copper or another conductor on its surface.

Accordingly, the actual description of the PCB by Saunders is quite different from the asserted description of Saunders in the Office Action. For example, the metal foil layer (12) stated in the Office Action rejection is actually a non-conducting core layer (12) in Saunders. Clearly, Applicants' metal foil layer and the Saunders non-conducting core layer are not the same or equal material because the former is a conductive material and the latter is a non-conductive material. Furthermore, Saunders does not disclose or suggest that at least one of the base film side adhesive layer and the cover layer side adhesive layer has a higher glass transition temperature than an operating temperature of the FPC as claimed in claim 1.

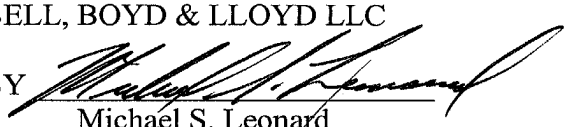
Therefore, the Saunders PCB is completely different from Applicants' claimed flexible printed circuit board.

Thus, Applicants respectfully submit that the §102(e) rejection has been overcome and request that it be withdrawn.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Versions with Markings to Show Changes Made**."

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

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Dated: March 19, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please amend claims 1, 5, and 6 to read as follows.

1. (Amended) A flexible printed circuit board comprising a base film; a base film side adhesive layer provided on the base film; a metal foil layer on which pattern circuit is formed, provided on the base film side adhesive layer; and a cover layer side adhesive layer provided on the metal foil layer,

wherein at least one of the base film side adhesive layer and the cover layer side adhesive layer has a higher glass transition temperature than ~~the working environment~~ an operating temperature of the flexible printed circuit board.

5. (Amended) A flexible printed circuit board according to claim 1, wherein a reciprocation number N indicating a bending life of the flexible printed circuit board is ten million times or greater ~~per minute~~ at 60°C.

6. (Amended) A flexible printed circuit board according to claim 1, wherein a reciprocation number N indicating a ~~per~~ bending life of the flexible printed circuit board is between a million times and ten ~~millions~~ million times ~~per minute~~ at 80°C.